

Exhibit 5



John Muir Project of Earth Island Institute

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To Whom It May Concern,

At the request of the Blue Mountains Biodiversity Project, as a forest and fire ecologist I am writing these comments on the Eastside Screens EA, which proposes to weaken a key protection to allow removal of some large and old trees >21" in diameter in eastside forests.

Omission of Entire Bodies of Dissenting Science on Historical Forest Density, Composition, and Mixed/High-Severity Fire: The EA relies on a group of U.S. Forest Service-funded studies that were recently found to have severely underestimated historical forest density (by at least twofold to threefold), and historical occurrence of higher-severity fire, due to improper exclusion of key data and failure to correct for well-documented underestimations in forest density (which were acknowledged by the Forest Service in multiple reports in the early 20th century) in historical US Forest Service surveys used as the basis for these studies. Yet the EA fails to acknowledge, discuss, or cite to the studies that have identified and corrected these methodological errors, thus improperly omitting entire bodies of dissenting scientific evidence finding that the historical forests were much denser, had more fir, and had more mixed- and high-severity fire than previously claimed or assumed (and, in fact, current forests have less higher-severity fire than these forests had historically, prior to fire suppression). The studies improperly omitted by the EA include Williams and Baker (2012), Odion et al. (2014), Odion et al. (2016), Baker (2017), Baker and Hanson (2017), and Baker et al. (2018). This omitted research establishes a very high level of accuracy of these data, based on the most extensive accuracy-checking and cross-validation in the history of fire ecology, including: 20 modern validations with plot data; 47 specific historical cross-validations in small areas; six large areas with general cross-validations; 99 corroborating observations from scientific studies; and general corroboration from seven paleo-reconstructions (Baker et al. 2018).

The EA cites in numerous places to Johnston (2016), but that study attempted to reconstruct historical forest density by using current forests and then determining how many of the current trees were alive in the historical reference time period based on their size and age. However, this approach necessarily excludes the countless trees that lived during the historical reference period, but which died due to age, fire, or drought and native bark beetles, and which fell and decayed into soil long before the field sampling of current forests was conducted (see, e.g., Baker and Hanson 2017). Thus, this approach is guaranteed to substantially underestimate historical forest density.

Further, when John C. Fremont and his team, including Kit Carson, explored the Blue Mountains in 1845, Fremont's journals frequently described forest conditions. Below, in order, are quotes pertaining to all of his descriptions of forest density and structure (generally, tree size) in the Blue Mountains (journal excerpts attached to these comments):

Page 540: "...the country is covered with nutritious grasses and dense forestland..."

Page 540: "...the timber exhibits a luxuriance of growth unknown to the eastern part of the continent..."

Page 542: "From the summit here, the whole horizon shows high mountains...and on the left, from south around by the west to north, the mountains are black with pines; while, through the remaining space to the eastward, they are bald with the exception of some scattered trees..."

Page 542: "You will remark that we are now entering a region where all the elevated parts are covered with dense and heavy forests."

Page 543: "It is probable that they have received their name of the Blue moutitains [sic] from the dark-blue appearance given to them by the pines."

Page 544: "On either side, the mountains here are densely covered with tall and handsome trees; and, mingled with the green of a variety of pines..."

Page 546: "There are some pines here on the low hills at the creek; and in the northwest corner of the Rond is a very heavy body of timber, which descends into the plain."

Page 546: "Passing through a point of pines...in which the trees were sometimes apparently 200 feet high and 3 to 7 feet in diameter..."

Page 546: "Resuming our journey, we commenced the ascent of the mountain through an open pine forest of large and stately trees..."

Page 547: "...continuing our route among the pines, which were more dense than yesterday, and still retained their magnificent size."

Page 547: "After a few miles we ceased to see any pines...These trees appeared from 60 to nearly 200 feet in height; the usual circumference being 10 to 12 feet, and in the pines sometimes 21 feet."

Page 547-548: "After travelling occasionally through open places in the forest, we were obliged to cut a way through a dense body of timber, from which we emerged on an open mountain side..."

Page 548: "We continued to travel through the forest, in which the road was rendered difficult by fallen trunks, and obstructed by many small trees, which it was necessary to cut down...A laborious day, which had advanced us only six miles..."

Page 548: [the following day] "The trail passed sometimes through very thick young timber, in which there was much cutting to be done; but, after travelling a few miles, the mountains became more bald..."

Page 548: "On our right was a mountain plateau, covered with a dense forest; and to the westward, immediately below us, was the great Nez Perce (pierced nose) prairie, in which dark lines of timber indicated the course of many affluents..."

Page 549: "...descending a bad ravine, into which we drove our animals, and had much trouble with them, in a very close growth of small pines."

trees. However, white-headed woodpeckers are strongly associated with large *dead* trees, not large live ones, and they do not use higher-severity fire areas (where no postfire logging has occurred) less than unburned old forest (Hanson 2007, Hanson and North 2008), in direct contradiction to the assumptions in the EA.

Sincerely,

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